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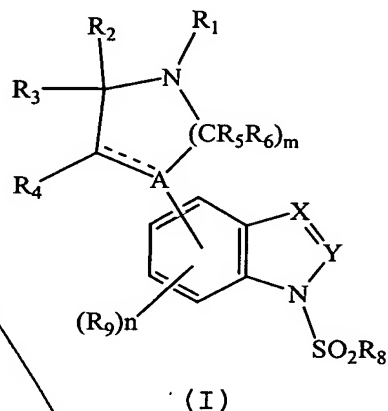
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WHAT IS CLAIMED IS:

1. A compound of formula I



wherein

A is C, CR₁₀ or N;

X is CR₁₁ or N;

Y is CR₇ or N with the proviso that when X is N, then Y must be CR₇;

R₁ is H, C₁-C₆alkylcarbonyl, C₁-C₆alkylcarbonyloxy or an C₁-C₆alkyl, C₁-C₆alkenyl, C₁-C₆alkynyl or cycloheteroalkyl group each optionally substituted;

R₂, R₃, R₄, R₅ and R₆ are each independently H, halogen, OH or an optionally substituted C₁-C₆alkyl group;

R₇ and R₁₁ are each independently H, halogen or an C₁-C₆alkyl, aryl, heteroaryl or C₁-C₆alkoxy group each optionally substituted;

R₈ is an C₁-C₆alkyl, aryl or heteroaryl group each optionally substituted;

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5 R₉ is H, halogen or an C₁-C₆alkyl, C₁-C₆alkoxy, C₁-C₆alkenyl, aryl or heteroaryl group each optionally substituted;

R₁₀ is H, OH or an optionally substituted C₁-C₆alkoxy group;

m is an integer of 1, 2 or 3;

n is 0 or an integer of 1, 2 or 3; and

---- represents a single bond or a double bond; or a pharmaceutically acceptable salt thereof.

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2. The compound according to claim 1 wherein A is N and m is 2.

15

3. The compound according to claim 1 wherein R₈ is an optionally substituted phenyl group.

4. The compound according to claim 1 wherein R₂, R₃, R₄, R₅ and R₆ are H.

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5. The compound according to claim 2 wherein R₁ is H or a C₁-C₆alkyl or cycloheteroalkyl group each optionally substituted.

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6. The compound according to claim 5 selected from the group consisting of:

1-(phenylsulfonyl)-4-piperazin-1-yl-1H-indole;

1-[(2-bromophenyl)sulfonyl]-4-piperazin-1-yl-1H-indole;

1-[(6-chloroimidazo[2,1-b][1,3]thiazol-5-yl)sulfonyl]-4-piperazin-1-yl-1H-indole;

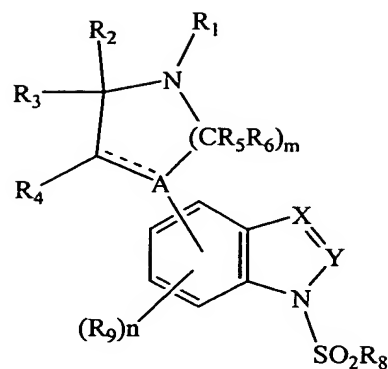
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1-[(3,4-dimethoxyphenyl)sulfonyl]-4-piperazin-1-yl-1H-indole;

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- 1-[(5-chloro-3-methyl-1-benzothien-2-yl)sulfonyl]-4-piperazin-1-yl-1H-indole;
 1-[(4-bromophenyl)sulfonyl]-4-piperazin-1-yl-1H-indole;
 1-[(5-bromothien-2-yl)sulfonyl]-4-piperazin-1-yl-1H-indole;
 5 1-[(4,5-dichlorothien-2-yl)sulfonyl]-4-piperazin-1-yl-1H-indole;
 methyl 4-[(4-piperazin-1-yl-1H-indol-1-yl)sulfonyl]phenyl ether;
 10 4-piperazin-1-yl-1-{[4-(trifluoromethoxy)phenyl]sulfonyl}-1H-indole;
 4-(4-benzylpiperazin-1-yl)-1-(phenylsulfonyl)-1H-indole;
 4-(4-benzylpiperazin-1-yl)-1-[(2-bromophenyl)sulfonyl]-1H-indole;
 15 4-(4-benzylpiperazin-1-yl)-1-[(6-chloroimidazo[2,1-b][1,3]thiazol-5-yl)sulfonyl]-1H-indole;
 4-(4-benzylpiperazin-1-yl)-1-[(3,4-dimethoxyphenyl)sulfonyl]-1H-indole;
 4-[4-(3-methoxybenzyl)piperazin-1-yl]-1-(phenylsulfonyl)-1H-indole;
 20 1-(phenylsulfonyl)-4-[4-(pyridin-4-ylmethyl)piperazin-1-yl]-1H-indole;
 1-(phenylsulfonyl)-4-[4-(pyridin-3-ylmethyl)piperazin-1-yl]-1H-indole;
 25 1-[(2-bromophenyl)sulfonyl]-4-[4-(3-methoxybenzyl)piperazin-1-yl]-1H-indole;
 1-[(2-bromophenyl)sulfonyl]-4-[4-(pyridin-4-ylmethyl)piperazin-1-yl]-1H-indole;
 1-[(2-bromophenyl)sulfonyl]-4-[4-(pyridin-3-ylmethyl)piperazin-1-yl]-1H-indole;
 30 1-(phenylsulfonyl)-5-piperazin-1-yl-1H-indazole;

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- 1- (phenylsulfonyl) -6-piperazin-1-yl-1H-indazole;
 1- [(2-bromophenyl) sulfonyl] -6-piperazin-1-yl-1H-indazole;
 1- [(4-bromophenyl) sulfonyl] -5-piperazin-1-yl-1H-indazole;
 1- [(4-bromophenyl) sulfonyl] -6-piperazin-1-yl-1H-indazole;
 5 1- [(5-bromothien-2-yl) sulfonyl] -5-piperazin-1-yl-1H-
 indazole;
 1- [(5-bromothien-2-yl) sulfonyl] -6-piperazin-1-yl-1H-
 indazole;
 1- [(4-fluorophenyl) sulfonyl] -5-piperazin-1-yl-1H-
 10 indazole;
 1- [(4-fluorophenyl) sulfonyl] -6-piperazin-1-yl-1H-
 indazole;
 methyl 4- [(5-piperazin-1-yl-1H-indazol-1-
 yl) sulfonyl] phenyl ether;
 15 1-phenylsulfonyl-4- (4-propylpiperazin-1-yl) -1H-indazole;
 1-phenylsulfonyl-4-piperazin-1-yl-1H-indazole;
 1-phenylsulfonyl-4- (4-phenethylpiperazin-1-yl) -1H-
 indazole;
 1-phenylsulfonyl-4- [4- (3-phenylpropyl) -piperazin-1-yl] -
 20 1H-indazole; and
 the pharmaceutically acceptable salts thereof.

7. A method for the treatment of a disorder of the
 central nervous system related to or affected by the 5-
 25 HT6 receptor in a patient in need thereof which comprises
 administering to said patient a therapeutically effective
 amount of a compound of formula I.



(I)

wherein

A is C, CR₁₀ or N;

X is CR₁₁ or N;

Y is CR₇ or N with the proviso that when X is N, then Y must be CR₇;

R₁ is H, C₁-C₆alkylcarbonyl, C₁-C₆alkylcarbonyloxy or an C₁-C₆alkyl, C₁-C₆alkenyl, C₁-C₆alkynyl or cycloheteroalkyl group each optionally substituted;

R₂, R₃, R₄, R₅ and R₆ are each independently H, halogen, OH or an optionally substituted C₁-C₆alkyl group;

R₇ and R₁₁ are each independently H, halogen or an C₁-C₆alkyl, aryl, heteroaryl or C₁-C₆alkoxy group each optionally substituted;

R₈ is an C₁-C₆alkyl, aryl or heteroaryl group each optionally substituted;

R₉ is H, halogen or an C₁-C₆alkyl, C₁-C₆alkoxy, C₁-C₆alkenyl, aryl or heteroaryl group each optionally substituted;

R₁₀ is H, OH or an optionally substituted C₁-C₆alkoxy group;

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m is an integer of 1, 2 or 3;

n is 0 or an integer of 1, 2 or 3; and

---- represents a single bond or a double bond; or
a pharmaceutically acceptable salt thereof.

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8. The method according to claim 7 wherein said disorder is a motor disorder, anxiety disorder or cognitive disorder.

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9. The method according to claim 7 wherein said disorder is schizophrenia or depression.

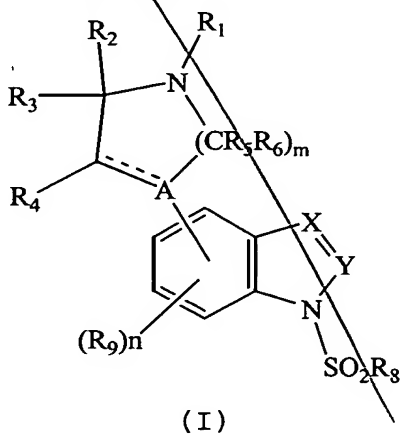
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10. The method according to claim 8 wherein said cognitive disorder is a neurodegenerative disorder.

11. The method according to claim 10 wherein said neurodegenerative disorder is Alzheimer's disease or Parkinson's disease

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12. A pharmaceutical composition which comprises a pharmaceutically acceptable carrier and an effective amount of a compound of formula I.



wherein

A is C, CR₁₀ or N;

X is CR₁₁ or N;

Y is CR₇ or N with the proviso that when X is N, then

5 Y must be CR₇;

R₁ is H, C₁-C₆alkylcarbonyl, C₁-C₆alkylcarbonyloxy or
an C₁-C₆alkyl, C₁-C₆alkenyl, C₁-C₆alkynyl or
cycloheteroalkyl group each optionally
substituted;

10 R₂, R₃, R₄, R₅ and R₆ are each independently H,
halogen, OH or an optionally substituted C₁-
C₆alkyl group;

R₇ and R₁₁ are each independently H, halogen or an C₁-
C₆alkyl, aryl, heteroaryl or C₁-C₆alkoxy group
each optionally substituted;

15 R₈ is an C₁-C₆alkyl, aryl or heteroaryl group each
optionally substituted;

R₉ is H, halogen or an C₁-C₆alkyl, C₁-C₆alkoxy, C₁-
C₆alkenyl, aryl or heteroaryl group each
optionally substituted;

20 R₁₀ is H, OH or an optionally substituted C₁-C₆alkoxy
group;

m is an integer of 1, 2 or 3;

n is 0 or an integer of 1, 2 or 3; and

25 ---- represents a single bond or a double bond; or
a pharmaceutically acceptable salt thereof.

13. The composition according to claim 12 wherein A
is N and m is 2.

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14. The composition according to claim 12 wherein R₈ is an optionally substituted phenyl group.

15. The composition according to claim 12 wherein
5 R₂, R₃, R₄, R₅ and R₆ are H.

16. The composition according to claim 13 wherein R₁ is H or a C₁-C₆alkyl or cycloheteroalkyl group each optionally substituted.

17. The composition according to claim 16 having a compound of formula I selected from the group consisting of:

1-(phenylsulfonyl)-4-piperazin-1-yl-1H-indole;

15 1-[(2-bromophenyl)sulfonyl]-4-piperazin-1-yl-1H-indole;

1-[(6-chloroimidazo[2,1-b][1,3]thiazol-5-yl)sulfonyl]-4-piperazin-1-yl-1H-indole;

1-[(3,4-dimethoxyphenyl)sulfonyl]-4-piperazin-1-yl-1H-indole;

20 1-[(5-chloro-3-methyl-1-benzothien-2-yl)sulfonyl]-4-piperazin-1-yl-1H-indole;

1-[(4-bromophenyl)sulfonyl]-4-piperazin-1-yl-1H-indole;

1-[(5-bromothien-2-yl)sulfonyl]-4-piperazin-1-yl-1H-indole;

25 1-[(4,5-dichlorothien-2-yl)sulfonyl]-4-piperazin-1-yl-1H-indole;

methyl 4-[(4-piperazin-1-yl-1H-indol-1-yl)sulfonyl]phenyl ether;

4-piperazin-1-yl-1-{[4-

30 (trifluoromethoxy)phenyl]sulfonyl}-1H-indole;

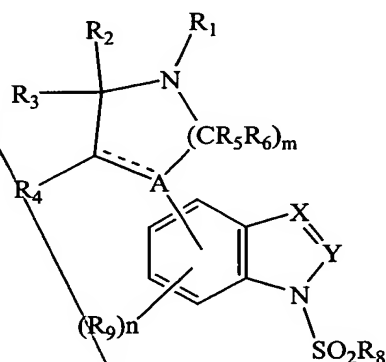
4-(4-benzylpiperazin-1-yl)-1-(phenylsulfonyl)-1H-indole;

- 4- (4-benzylpiperazin-1-yl) -1- [(2-bromophenyl) sulfonyl] -
1H-indole;
- 4- (4-benzylpiperazin-1-yl) -1- [(6-chloroimidazo[2,1-
b] [1,3]thiazol-5-yl) sulfonyl] -1H-indole;
- 5 4- (4-benzylpiperazin-1-yl) -1- [(3,4-
dimethoxyphenyl) sulfonyl] -1H-indole;
- 4- [4- (3-methoxybenzyl) piperazin-1-yl] -1- (phenylsulfonyl) -
1H-indole;
- 10 1- (phenylsulfonyl) -4- [4- (pyridin-4-ylmethyl) piperazin-1-
yl] -1H-indole;
- 1- (phenylsulfonyl) -4- [4- (pyridin-3-ylmethyl) piperazin-1-
yl] -1H-indole;
- 1- [(2-bromophenyl) sulfonyl] -4- [4- (3-
methoxybenzyl) piperazin-1-yl] -1H-indole;
- 15 1- [(2-bromophenyl) sulfonyl] -4- [4- (pyridin-4-
ylmethyl) piperazin-1-yl] -1H-indole;
- 1- [(2-bromophenyl) sulfonyl] -4- [4- (pyridin-3-
ylmethyl) piperazin-1-yl] -1H-indole;
- 1- (phenylsulfonyl) -5-piperazin-1-yl-1H-indazole;
- 20 1- (phenylsulfonyl) -6-piperazin-1-yl-1H-indazole;
- 1- [(2-bromophenyl) sulfonyl] -6-piperazin-1-yl-1H-indazole;
- 1- [(4-bromophenyl) sulfonyl] -5-piperazin-1-yl-1H-indazole;
- 1- [(4-bromophenyl) sulfonyl] -6-piperazin-1-yl-1H-indazole;
- 1- [(5-bromothien-2-yl) sulfonyl] -5-piperazin-1-yl-1H-
25 indazole;
- 1- [(5-bromothien-2-yl) sulfonyl] -6-piperazin-1-yl-1H-
indazole;
- 1- [(4-fluorophenyl) sulfonyl] -5-piperazin-1-yl-1H-
indazole;
- 30 1- [(4-fluorophenyl) sulfonyl] -6-piperazin-1-yl-1H-
indazole;

methyl 4-[(5-piperazin-1-yl-1H-indazol-1-yl)sulfonyl]phenyl ether;
 1-phenylsulfonyl-4-(4-propylpiperazin-1-yl)-1H-indazole;
 1-phenylsulfonyl-4-piperazin-1-yl-1H-indazole;
 5 1-phenylsulfonyl-4-(4-phenethylpiperazin-1-yl)-1H-indazole;
 1-phenylsulfonyl-4-[4-(3-phenylpropyl)-piperazin-1-yl]-1H-indazole; and
 the pharmaceutically acceptable salts thereof.

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18. A method for the preparation of a compound of formula I.



(I)

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wherein

A is C, CR₁₀ or N;

X is CR₁₁ or N;

Y is CR₇ or N with the proviso that when X is N, then Y must be CR₇;

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R₁ is C₁-C₆alkylcarbonyl, C₁-C₆alkylcarbonyloxy or an C₁-C₆alkyl, C₁-C₆alkenyl, C₁-C₆alkynyl or cycloheteroalkyl group each optionally substituted;

R_2, R_3, R_4, R_5 and R_6 are each independently H, halogen, OH or an optionally substituted C_1 - C_6 alkyl group;

R_7 and R_{11} are each independently H, halogen or an C_1 - C_6 alkyl, aryl, heteroaryl or alkoxy group each optionally substituted;

R_8 is an C_1 - C_6 alkyl, aryl or heteroaryl group each optionally substituted;

R_9 is H, halogen or an C_1 - C_6 alkyl, C_1 - C_6 alkoxy, C_1 - C_6 alkenyl, aryl or heteroaryl group each optionally substituted;

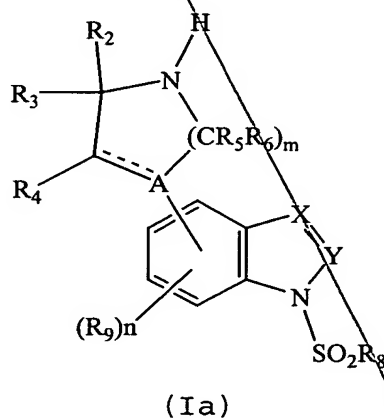
R_{10} is H, OH or an optionally substituted C_1 - C_6 alkoxy group;

m is an integer of 1, 2 or 3;

n is 0 or an integer of 1, 2 or 3; and

---- represents a single bond or a double bond

said method which comprises reacting a compound of formula Ia



wherein A, X, $R_2, R_3, R_4, R_5, R_6, R_7, R_8, R_9, m$ and n are as defined hereinabove for formula I with a compound R_1 -Hal

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wherein R_1 is as defined hereinabove for formula I and Hal
is Cl, Br or I.

Add
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